AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method of producing a metallic coating on an object [[(4)]] emerging from a bath of molten metal [[(5)]], in which a magnetic field is created near the exit point of the object, ~~characterized in that~~ wherein the object leaves the bath of molten metal via an exit channel [[(3)]] containing a meniscus of the [[said]] bath of molten metal, and ~~in that the~~ a thickness e_o of the metallic coating is controlled as a function of a second derivative Φ of the curve of the meniscus [[(6)]] and a capillary number Ca representing the ratio between the viscous forces of the molten metal and the forces of surface tension at the surface of the molten metal, said function being $e_o\Phi_{zz}=1.3C_a^{2/3}$, z being the axis of travel.

2. (currently amended): A method according to claim 1, ~~characterized in that,~~ wherein during vertical drainage upwards, the exit channel [[(3)]] is dimensioned in such a way as to maintain the meniscus [[(6)]] of the molten metal in conditions close to capillary-gravitational equilibrium in the magnetic field, and ~~in that~~ wherein the second derivative of the curve of the [[said]] meniscus [[(6)]] is a function of an electromagnetic

forming parameter K representing the ratio between the forces of surface tension and the forces due to the effect of electromagnetic forming.

3. (currently amended): A method according to claim 1, ~~characterized in that~~ wherein the exit channel is constructed in such a way that [[the]] an annular gap is of the same order as the height of the meniscus, the annular gap being the distance between the inside wall of the exit channel and the metallic coating formed beyond the meniscus.

4. (currently amended): A method according to claim 1, ~~characterized in that,~~ wherein during the vertical drainage downwards in the case of a wire, the second derivative of the curve of the ~~said~~ meniscus [[(6)]] is a function:

- of the ratio between the average thickness of the ~~said object~~ wire and the opening of the exit channel [[(3)]]; and
- of the ratio between the Alfen rate U_A and the rate of drainage of the ~~said object.~~ wire, this function being:

$$\varphi_{zz} = \frac{1}{R1}\left[2+\left(\frac{R1}{RO}\right)^4\cdot\left(1+\frac{U_A^{\,2}}{\alpha V_0^{\,2}}\right)\right]$$

where R1 is the radius of the wire, R0 is the radius of the opening of the exit channel, V_o is the velocity of travel of

the wire, and α is a term reflecting the influence of the Couette flow, equal to:

$$\frac{1}{2}\left[\frac{1-\left(\frac{R1}{R0}\right)^2}{\frac{1}{\ln\left(R1/R0\right)}}-2\left(\frac{R1}{R0}\right)^2\right].$$

5. (currently amended): A method according to claim 1, ~~characterized in that~~ wherein the exit channel is constructed so that the radio between the average thickness of the [[said]] object and the opening of the exit channel [[(3)]] is greater than or equal to 0.8.

6. (currently amended): A method according to claim 1, ~~characterized in that~~ wherein the magnetic field is alternating and steady-state, and is created by means of a flat inductor [[(9)]].

7. (currently amended): A method according to claim 1, ~~characterized in that~~ wherein the magnetic field is created by means of an alternating current whose frequency is such that the ratio between the capillary length and the thickness of the magnetic skin in the metallic coating is greater than or equal to 3.

8. (currently amended): A method according to claim 1, for horizontal drainage with an exit channel containing a meniscus obtained by applying a sliding field in the bath of

molten metal, ~~characterized in that~~ wherein the second derivative of the curve of the [[said]] meniscus [[(6)]] is a function of a Bond number Bd representing the ratio between the forces of gravity and the forces of surface tension.

9. (currently amended): A method according to claim 1, ~~characterized in that~~ wherein means of exerting pressure on the molten metal are used for maintaining the height of the meniscus in the exit channel.

10. (currently amended): A method according to claim 1, ~~characterized in that the~~ wherein means of electromagnetic pumping ~~(16, 17)~~ of the molten metal are used for maintaining the height of the meniscus in the exit channel.

11. (currently amended): A method according to claim 1, ~~characterized in that~~ wherein the object is a long and slender object with constant cross-section.

12. (currently amended): A device for producing a metallic coating on an object [[(4)]] emerging from a bath of molten metal [[(5)]], comprising[[,]];

means for creating a magnetic field near the point of exit of the [[said]] object[[,]];

~~characterized in that it comprises~~

an exit channel [[(3)]] containing a meniscus of the [[said]] bath of molten metal[[,]]; and

~~in that it additionally comprises~~

means for adjusting the thickness e_o of the metallic coating as a function of the second derivative Φ of the curve of the meniscus [[(6)]] and of a capillary number Ca representing the ratio between the viscous forces of the molten metal and the forces of surface tension at the surface of the molten metal, said function being $e_o\Phi_{zz}=1.3Ca^{2/3}$, z being the axis of travel.

13. (currently amended): A device according to claim 12, ~~characterized in that,~~ wherein in the case of vertical drainage upwards, the exit channel is such that [[the]] an annular gap is of the same order as the height of the meniscus, the annular gap being the distance between the inside wall of the exit channel and the metallic coating formed beyond the meniscus.

14. (currently amended): A device according to claim 12, ~~characterized in that,~~ wherein in the case of vertical drainage downwards, the exit channel is such that the ratio between the average thickness of the [[said]] object and the opening of the exit channel [[(3)]] is greater than or equal to 0.8.

15. (currently amended): A device according to claim 12, ~~characterized in that~~ wherein the magnetic field is alternating and steady-state, and the means for creating [[it]] the magnetic field include a flat inductor.

16. (currently amended): A device according to claim 12, ~~characterized in that it comprises~~ further comprising means

for exerting pressure ~~(2, 10)~~ on the molten metal so as to maintain the height of the meniscus in the exit channel.

17. (currently amended): A device according to claim 12, ~~characterized in that it comprises~~ further comprising means for electromagnetic pumping ~~(16, 17)~~ of the molten metal so as to maintain the height of the meniscus in the exit channel.